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Tel.No.: ++431/53424/0
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Date of mailing:

31. Okt. 2000

Applicant
SUMITOMO CHEMICAL COMPANY, LIMITED et al.

Application No.
200007419-5

Filing Date
24 April 2000 (24.04.2000)

(Earliest) Priority Date
26 April 1999 (26.04.1999)

International Patent Classification (IPC')

C08L 23/12

Please find enclosed the

- ☒ **SEARCH REPORT**
- ☒ **EXAMINATION REPORT**
- ☐ **WRITTEN OPINION**

provided by the Austrian Patent Office as Search and Examination Authority according to the Memorandum of Understanding between the Government of Singapore and the Austrian Patent Office (MOU)

Best regards

AUSTRIAN PATENT OFFICE
Service and Information
Sector TRF

P. NEGWER

Telephone No.: ++431/53424/180

Enclosures:

- ☒ the search report
(it is also accompanied by a copy of each prior art document cited in the report)
- ☒ the examination report
- ☐ the written opinion
- ☐ the Registry's copy of the priority application



Application No. 200007419-5	Applicant: SUMITOMO CHEMICAL COMPANY, LIMITED et al.
Filing date 24 April 2000 (24.04.2000)	(Earliest) Priority Date 26 April 1999 (26.04.1999)

GENERAL OBSERVATIONS

☒ With regard to the abstract the text is approved as submitted by the applicant.

☒ With regard to the requirement of section 25 (5) of the Singapore Patents Act the following observations where made:
Unity of invention is complied with.

The Searching and Examining Authority considers that the requirement of unity of invention is complied with. Consequently, all parts of the application were the subject of examination in establishing this report.

☒ With regard to section 13 (3) and (4) of the Singapore Patents Act the application contains neither statements disparaging any person nor expressions etc. contrary to morality or the public order.

☒ Concerning to the claimed priority:
This report has been established in consideration of the claimed priority dated 26.04.1999.

☐ Further remarks:

AUSTRIAN PATENT OFFICE Kohlmarkt 8-10, A-1014 VIENNA Facsimile No. ++431/53424/535	Authorized Officer BECK Telephone No. ++431/53424/ 134
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**A. CLASSIFICATION OF SUBJECT MATTER**According to the International Patent Classification (IPC⁷):

C08L 23/12

B. FIELDS SEARCHED IPC⁷:

C08L

Electronic data base consulted during the search (name of data base and, where practicable, search terms used)
WPI**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 07-138421 A (ASAHI KASEI KOGYO KK) 1995-05-30 (abstract). <i>World Patents Index [online]. London, U.K.: Derwent Publications, Ltd.</i> Retrieved from: EPO WPI Database. DW 199530, Accession No. 1995-228801.	1-9
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A	JP 06-009836 A (SEKISUI CHEM. IND. CO. LTD.) 1994-01-18 <i>World Patents Index [online]. London, U.K.: Derwent Publications, Ltd.</i> Retrieved from: EPO WPI Database. DW 199407, Accession No. 1994-054022.	1-9
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☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"P" document published prior to the filing date but later than the priority date claimed
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier document but published on or after the filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family

Date of actual completion of the search: 17 August 2001 (17.08.2001)

AUSTRIAN PATENT OFFICE
Kohlmarkt 8-10, A-1014 VIENNA

Authorized Officer BECK

Facsimile No. ++431/53424/535

Telephone No. ++431/53424/ 134



C (Continuation - Page 2). DOCUMENTS CONSIDERED TO BE RELEVANT

A	EP 0872517 A1 (MITSUBISHI CHEMICAL CORPORATION et al.) 21 October 1998 (21.10.98) <i>claims.</i>	1-9
A	-- EP 0831125 A1 (SUMITOMO CHEMICAL COMPANY, LIMITED) 25 March 1998 (25.03.98) <i>claims.</i>	1-9
A	-- EP 0784074 A1 (IDEMITSU PETROCHEMICAL CO., LTD.) 16 July 1997 (16.07.97) <i>claims.</i> ----	



Application No. 200007419-5	Applicant SUMITOMO CHEMICAL COMPANY, LIMITED et al
Filing date 24 April 2000 (24.04.2000)	(Earliest) Priority Date 26 April 1999 (26.04.1999)

SEARCH REPORT

EXPLANATIONS

Document JP 07-138421 A (Database abstract) describes a resin composition for injection moulding hollow articles including organic compound having crystallisation accelerating effect to prevent blistering of mouldings during gas injection moulding.

Document JP 06-009836 A (Database abstract) describes an injection-mouldable polypropylene resin composition containing talc and e.g. ethylene-propylene copolymer or hydrogenated styrene-isoprene block copolymer, opt. glass fibre, etc.

Document EP 0872517 A1 describes a thermoplastic elastomer composition for interior materials for cars and cover of furniture produced by blending organic peroxide-crosslinked mixture of crystalline propylene polymer resin and propylene-olefin copolymer rubber with ethylene copolymer etc.

Document EP 0831125 A1 describes a thermoplastic resin moulding composition with balanced impact strength and rigidity comprising crystalline polypropylene, ethylene-butene-1 and ethylene-propylene copolymer rubbers, vinyl aromatic compound, talc. etc.

Document EP 0784074 A1 describes a propylene resin composition for automobile interior material comprising a crystalline propylene polymer composition of specific properties such a melt index, giving improved appearance characteristics.



SEARCH REPORT

Information on patent family members

Application No.

200007419-5

This annex lists the patent family members relating to the patent documents cited in the search report.
The members are as contained in the EPIDOS INPADOC file.
The Office is in no way liable for these particulars which are merely given for the purpose of information

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
JP	A2	7128421	30-05-1995	none	
JP	A2	6009836	18-01-1994	none	
EP	A1	872517	21-10-1998	JP A2 10120845	12-05-1998
EP	A4	872517	29-09-1999	WO A1 9817722	30-04-1999
EP	A1	872517	21-10-1998		
EP	A4	872517	29-09-1999		
EP	A1	831125	25-03-1998	CA AA 2223040	16-10-1997
EP	A4	831125	12-01-2000	CN A 1190419	12-08-1998
EP	A1	831125	25-03-1998	JP A2 9278954	28-10-1997
EP	A4	831125	12-01-2000	WO A1 9738050	16-10-1997
EP	A1	784074	16-07-1997	CA AA 2197225	11-04-1996
EP	A4	784074	27-05-1998	CN A 1159817	17-09-1997
EP	B1	784074	07-07-1999	DE C0 69510682	12-08-1999
EP	A1	784074	16-07-1997	DE T2 69510682	02-12-1999
EP	A4	784074	27-05-1998	JP A2 8151419	11-06-1996
EP	B1	784074	07-07-1999	WO A1 9610607	11-04-1996



EXAMINATION REPORT



WRITTEN OPINION

Application No.

200007419-5

Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

Date of actual completion of the report / opinion: 17 August 2001 (17.08.2001)

I. STATEMENT

Novelty (N) YES Claims 1-9

NO Claims ----

Inventive step (IS) YES Claims 1-9

NO Claims ----

Industrial applicability (IA) YES Claims 1-9

NO Claims ----

2. CITATIONS AND EXPLANATIONS

In the Search Report the following documents were cited:

JP 07-138421 A (Database abstract), JP 06-009836 A (Database abstract), EP 0872517 A1, EP 0831125 A1 and EP 0784074 A1.

The subject matter of the present claims appears to be novel and to involve an inventive step, since the combination of all the characteristic features of the thermoplastic resin composition, could not be found in any of the documents cited in the Search Report.

The industrial applicability of the present claims' subject matter is considered to be self-evident.

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

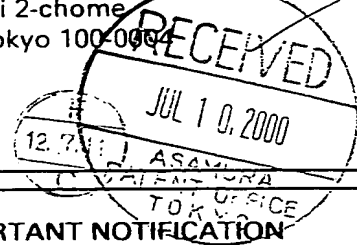
NOTIFICATION CONCERNING SUBMISSION OR TRANSMITTAL OF PRIORITY DOCUMENT

小松

(PCT Administrative Instructions, Section 411)

To:

ASAMURA, Kiyoshi
New Ohtemachi Building, Room 331
2-1, Ohtemachi 2-chome
Chiyoda-ku, Tokyo 100-0004
JAPON



Date of mailing (day/month/year) 29 June 2000 (29.06.00)	
Applicant's or agent's file reference E5190-00	IMPORTANT NOTIFICATION
International application No. PCT/JP00/02665	International filing date (day/month/year) 24 April 2000 (24.04.00)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 26 April 1999 (26.04.99)
Applicant SUMITOMO CHEMICAL COMPANY, LIMITED et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
26 April 1999 (26.04.99)	11/118001	JP	26 June 2000 (26.06.00)

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer</p> <p>Max Germeil</p> <p>Telephone No. (41-22) 338.83.38</p>
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(TRANSLATION)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference E5190-00	<div style="display: flex; justify-content: space-between;"><div>FOR FURTHER ACTION</div><div>see Notification of Transmittal of International Search Report (Form PCT/ISA220) as well as, what applicable, item 5 below.</div></div>
International application No. PCT/JP00/02665	<div style="display: flex; justify-content: space-between;"><div>International Filing date (day/month/year) 24.04.00</div><div>(Earliest) Priority Date (day/month/year) 26.04.99</div></div>
Applicant: SUMITOMO CHEMICAL COMPANY, LIMITED	

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless other wise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

A thermoplastic composition which is obtained by melt-kneading (1) 55 to 75 wt.% crystalline polypropylene resin together with (2) 10 to 30 wt.% elastomer comprising either a rubber containing a vinyl aromatic compound or a mixture thereof with an ethylene/ α -olefin random copolymer rubber and (3) 15 to 25 wt.% talc having an average particle diameter of 3 μm or smaller. The composition satisfies specific requirements with respect to: the long period obtained by X-ray small-angle scattering attributable to the vinyl aromatic-containing rubber in a blend obtained by melt-kneading the ingredients (1) and (2); the shape and diameter of the elastomer particles present near the polypropylene/elastomer interface in the blend; and the difference between the glass transition point of the ingredient (1) and that of the composition attributable to the crystalline polypropylene homopolymer parts. The composition has a satisfactory balance between impact resistance and rigidity and has excellent injection moldability.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP00/02665

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ C08L23/10, C08K3/34, B29C45/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ C08L23/10, C08K3/34, B29C45/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI/L

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP, 7-138421, A (Asahi Chemical Industry Co., Ltd.), 30 May, 1995 (30.05.95), All specification (Family: none)	1-9
X	JP, 6-9836, A (Sekisui Chemical Co., Ltd.), 18 January, 1994 (18.01.94), All specification (Family: none)	1-9
A	WO, 97/38050, A1 (Sumitomo Chemical Company, Limited, Toyota Motor Corporation), 16 October, 1997 (16.10.97), All specification & JP, 9-278954, A & KR, 99022441, A	1-9

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
18 July, 2000 (18.07.00)

Date of mailing of the international search report
01 August, 2000 (01.08.00)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

国際調査報告

(法 8 条、法施行規則第40、41条)
〔P C T 1 8 条、P C T 規則43、44〕

出願人又は代理人 の書類記号 E 5 1 9 0 - 0 0	今後の手続きについては、国際調査報告の送付通知様式(P C T / I S A / 2 2 0) 及び下記 5 を参照すること。		
国際出願番号 P C T / J P 0 0 / 0 2 6 6 5	国際出願日 (日.月.年) 24.04.00	優先日 (日.月.年) 26.04.99	
出願人 (氏名又は名称) 住友化学工業株式会社			

国際調査機関が作成したこの国際調査報告を法施行規則第41条 (P C T 1 8 条) の規定に従い出願人に送付する。
この写しは国際事務局にも送付される。

この国際調査報告は、全部で 3 ページである。

☐ この調査報告に引用された先行技術文献の写しも添付されている。

1. 国際調査報告の基礎

a. 言語は、下記に示す場合を除くほか、この国際出願がされたものに基づき国際調査を行った。

☐ この国際調査機関に提出された国際出願の翻訳文に基づき国際調査を行った。

b. この国際出願は、ヌクレオチド又はアミノ酸配列を含んでおり、次の配列表に基づき国際調査を行った。

☐ この国際出願に含まれる書面による配列表

☐ この国際出願と共に提出されたフレキシブルディスクによる配列表

☐ 出願後に、この国際調査機関に提出された書面による配列表

☐ 出願後に、この国際調査機関に提出されたフレキシブルディスクによる配列表

☐ 出願後に提出した書面による配列表が出願時における国際出願の開示の範囲を超える事項を含まない旨の陳述書の提出があった。

☐ 書面による配列表に記載した配列とフレキシブルディスクによる配列表に記録した配列が同一である旨の陳述書の提出があった。

2. ☐ 請求の範囲の一部の調査ができない (第 I 欄参照)。

3. ☐ 発明の単一性が欠如している (第 II 欄参照)。

4. 発明の名称は ☒ 出願人が提出したものを承認する。

☐ 次に示すように国際調査機関が作成した。

5. 要約は ☐ 出願人が提出したものを承認する。

☒ 第 III 欄に示されているように、法施行規則第47条 (P C T 規則38.2(b)) の規定により国際調査機関が作成した。出願人は、この国際調査報告の発送の日から 1 カ月以内にこの国際調査機関に意見を提出することができる。

6. 要約書とともに公表される図は、

第 _____ 図とする。 ☐ 出願人が示したとおりである。

☒ なし

☐ 出願人は図を示さなかった。

☐ 本図は発明の特徴を一層よく表している。

第Ⅲ欄 要約 (第1ページの5の続き)

(1) 結晶性ポリプロピレン系樹脂 55～75重量%、(2) ビニル芳香族化合物含有ゴム又はビニル芳香族化合物含有ゴム及びエチレン- α -オレフィンランダム共重合体ゴムからなるエラストマー 10～30重量%、及び(3) 平均粒径 $3\mu\text{m}$ 以下のタルク 15～25重量%とを熔融混練して得られる熱可塑性組成物。

(1) と (2) とを熔融混練させた際のビニル芳香族化合物含有ゴムに起因する小角X線散乱で得られる長周期、及びその際のポリプロピレンとの界面付近にあるエラストマー粒子の形態と粒子径、及び(1) と組成物の結晶性ポリプロピレン単独重合体部に帰属するガラス転移点の差が特定条件を満足する。

上記組成物は、耐衝撃性及び剛性度のバランスが良好で射出成形性に優れる。

A. 発明の属する分野の分類 (国際特許分類 (IPC))		
Int. Cl ⁷ C08L23/10, C08K3/34, B29C45/00		
B. 調査を行った分野		
調査を行った最小限資料 (国際特許分類 (IPC))		
Int. Cl ⁷ C08L23/10, C08K3/34, B29C45/00		
最小限資料以外の資料で調査を行った分野に含まれるもの		
国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)		
WPI/L		
C. 関連すると認められる文献		
引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
X	JP, 7-138421, A (旭化成工業株式会社) 30. 5月. 1995 (30. 05. 95), 全明細書 (ファミリーなし)	1-9
X	JP, 6-9836, A (積水化学工業株式会社) 18. 1月. 1994 (18. 01. 94), 全明細書 (ファミリーなし)	1-9
A	WO, 97/38050, A1 (住友化学工業株式会社, トヨタ自動車株式会社) 16. 10月. 1997 (16. 10. 97), 全明細書 & JP, 9-278954, A & KR, 99022441, A	1-9
<input type="checkbox"/> C欄の続きにも文献が列举されている。 <input type="checkbox"/> パテントファミリーに関する別紙を参照。		
* 引用文献のカテゴリー		
「A」 特に関連のある文献ではなく、一般的技術水準を示すもの		
「E」 国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの		
「L」 優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)		
「O」 口頭による開示、使用、展示等に言及する文献		
「P」 国際出願日前で、かつ優先権の主張の基礎となる出願日の後に公表された文献		
「T」 国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの		
「X」 特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの		
「Y」 特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの		
「&」 同一パテントファミリー文献		
国際調査を完了した日	18. 07. 00	国際調査報告の発送日
		01. 08. 00
国際調査機関の名称及びあて先	特許庁審査官 (権限のある職員)	4 J 9 3 6 2
日本国特許庁 (ISA/J P)	三谷 祥子	印
郵便番号 100-8915	電話番号 03-3581-1101	内線 6832
東京都千代田区霞が関三丁目4番3号		